Amendments to the claims

Claim 1 (currently amended)

1. A system for driving a caisson into the ground, comprising:

a plurality of vibratory devices, where each vibratory device generates a vibratory force;

a clamp assembly for rigidly securing each of the vibratory devices to one of a plurality of predetermined angularly spaced locations about the caisson; and

a timing system operatively connecting the plurality of vibratory devices to synchronize the vibratory forces generated thereby; whereby

one of the vibratory devices is a master vibratory device;

another vibratory device is a slave vibratory device; and

the timing system causes the slave vibratory device to generate vibratory forces based on the operation of the master vibratory device.

Claim 2 (canceled)

Claim 3 (original)

3. A system as recited in claim 1, in which the timing system comprises:

at least one gear box; and

a plurality of shafts; where

each shaft extends between one of the vibratory devices and the at least one gear box; and

operation of one of the vibratory devices causes operation of another of the vibratory devices through the at least one gear box and the plurality of shafts such that the vibratory forces generated by the vibratory devices are synchronized.

Claim 4 (original)

4. A system as recited in claim 1, further comprising:

a crane assembly; and

a suspension assembly connected between the crane assembly and the vibratory devices for inhibiting transmission of vibratory forces to the crane assembly.

Claim 5 (currently amended)

5. A system as recited in claim 1, in which~~:~~

~~one of the vibratory devices is a master vibratory device;~~

~~the other~~ the vibratory devices other than the master vibratory device are slave vibratory devices~~; and~~

~~the timing system causes the slave vibratory devices to generate vibratory forces based on the operation of the master vibratory device~~.

Claim 6 (original)

6. A system as recited in claim 5, in which the timing system comprises:

a plurality of gear boxes; and

a plurality of shafts; where

a first shaft extends from the master vibratory device to a first gear box;

a second shaft extends from the first gear box to a first slave vibratory device;

a third shaft extends from the first slave vibratory device to a second gear box; and

a fourth shaft extends from the second gear box to a second slave vibratory device; wherein

operation of the master vibratory device causes operation of the first and second slave vibratory devices through the first and second gear boxes and the first, second, third, and fourth shafts such that the vibratory forces generated by the first and second slave vibratory devices are synchronized with the vibratory forces generated by the master vibratory device.

Claim 7 (original)

7. A system as recited in claim 5, in which the timing system comprises:

first, second, and third gear boxes; and

a plurality of shafts; where

a first shaft extends from the master vibratory device to the first gear box;

a second shaft extends from the first gear box to a first slave vibratory device;

a third shaft extends from the first slave vibratory device to the second gear box;

a fourth shaft extends from the second gear box to a second slave vibratory device;

a fifth shaft extends from the second slave vibratory device to the third gear box; and

a sixth shaft extends from the third gear box to a third slave vibratory device; wherein

operation of the master vibratory device causes operation of the first, second, and third slave vibratory devices through the first, second, and third gear boxes and the first, second, third, fourth, fifth, and sixth shafts such that the vibratory forces generated by the first, second, and third slave vibratory devices are synchronized with the vibratory forces generated by the master vibratory device.

Claim 8 (original)

8. A system as recited in claim 1, in which the timing system interconnects the vibratory devices in a daisy chain configuration to synchronize the vibratory forces generated by the vibratory devices.

Claim 9 (original)

9. A system as recited in claim 1, in which:

each vibratory device comprises at least two eccentric weights; and

the timing system is operatively connected between the vibratory devices such that the eccentric weights rotate at substantially the same speed.

Claim 10 (currently amended)

10. A system as recited in claim 9, in which the timing system comprises:

~~at least one gear box~~a plurality of gear boxes; and

a ~~plurality~~ pair of shafts associated with each gear box; where

each shaft is operatively connected between one of the eccentric weights and the at least one gear box; and

the shafts are rotated with the eccentric weights such that the eccentric weights rotate in synchrony with each other.

Claim 11 (original)

11. A system as recited in claim 5, in which:

each vibratory device comprises at least two eccentric weights; and

the timing system comprises

at least one gear box; and

a plurality of shafts; wherein

each shaft is operatively connected between one of the eccentric weights and the at least one gear box; and

the shafts rotate based on rotation of the eccentric weights of the master vibratory device such that the eccentric weights of the slave vibratory devices rotate in synchrony with eccentric weights of the master vibratory device.

Claim 12 (currently amended)

12. A method of connecting a crane assembly to a caisson to drive the caisson into the ground, comprising:

providing a plurality of vibratory devices for generating vibratory forces;

connecting the plurality of vibratory devices to the crane assembly such that transmission of vibratory forces from the vibratory devices to the crane assembly is inhibited;

rigidly securing each of the vibratory devices to one of a plurality of predetermined angularly spaced locations about the caisson;

operating each of the plurality of vibratory devices such that the vibratory devices each generate a vibratory force;

operatively connecting the plurality of vibratory devices together to synchronize the vibratory forces generated thereby

identifying one of the vibratory devices as a master vibratory device; and

identifying another vibratory device as a slave vibratory device; wherein

the step of operatively connecting the plurality of vibratory devices further comprises the step of operating the slave vibratory device to generate vibratory forces based on the operation of the master vibratory device.

Claim 13 (canceled)

Claim 14 (original)

14. A method as recited in claim 12, in which the step of operatively connecting the plurality of vibratory devices further comprises the step of interconnecting the vibratory devices in a daisy chain configuration to synchronize the vibratory forces generated by the vibratory devices.

Claim 15 (original)

15. A method as recited in claim 12, in which:

the step of providing the plurality of vibratory devices comprises the step of providing at least two eccentric weights; and

the step of operatively connecting the plurality of vibratory devices further comprises the step of operatively connecting the vibratory devices such that the eccentric weights rotate at substantially the same speed.

Claim 16 (original)

16. A method as recited in claim 15, in which the step of operatively connecting the plurality of vibratory devices further comprises the steps of:

providing at least one gear box;

providing a plurality of shafts;

operatively connecting each shaft between one of the eccentric weights and the at least one gear box; and

rotating the shafts with the eccentric weights such that the eccentric weights rotate in synchrony with each other.

Claim 17 (currently amended)

17. A system for driving a large diameter caisson into the ground, comprising:

a plurality of vibratory devices, where each vibratory device comprises:

a housing; and

eccentric weights mounted within the housing, where rotating the eccentric weights in opposite directions generate vibratory forces;

a clamp assembly for rigidly securing each of the vibratory devices to one of a plurality of predetermined angularly spaced locations about the caisson;

a suspension assembly connected to the vibratory devices for inhibiting transmission of vibratory forces; and

a timing system comprising

at least one gear box, and

a plurality of shafts; where

each shaft extends between the eccentric weights of one of the vibratory devices and the at least one gear box; and

rotation of the eccentric weights of one of the vibratory devices is transmitted to rotation of the eccentric weights of another of of the vibratory devices through the at least one gear box and the plurality of shafts such that the vibratory forces generated by the vibratory devices are synchronized; whereby

one of the vibratory devices is a master vibratory device;

another vibratory device is a slave vibratory device; and

the timing system causes the slave vibratory device to generate vibratory forces based on the operation of the master vibratory device.

Claim 18 (canceled)

Claim 19 (currently amended)

19. A system as recited in ~~claim 18~~claim 17, in which the timing system interconnects the vibratory devices in a daisy chain configuration to synchronize the vibratory forces generated by the vibratory devices.

Claim 20 (new)

20. A system for driving a caisson into the ground, comprising:

a plurality of vibratory devices, where each vibratory device generates a vibratory force;

a clamp assembly for rigidly securing each of the vibratory devices to one of a plurality of predetermined angularly spaced locations about the caisson; and

a timing system operatively connecting the plurality of vibratory devices to synchronize the vibratory forces generated thereby; whereby

the timing system interconnects the vibratory devices in a daisy chain configuration to synchronize the vibratory forces generated by the vibratory devices.

Claim 21 (new)

21. A system for driving a caisson into the ground, comprising:

a plurality of vibratory devices, where each vibratory device generates a vibratory force;

a clamp assembly for rigidly securing each of the vibratory devices to one of a plurality of predetermined angularly spaced locations about the caisson; and

a timing system operatively connecting the plurality of vibratory devices to synchronize the vibratory forces generated thereby; whereby

the timing system comprises a plurality of gear boxes and a pair of shafts associated with each gear box;

each shaft extends between one of the vibratory devices and one of the gear boxes; and

operation of one of the vibratory devices causes operation of another of the vibratory devices through the gear boxes and the shafts such that the vibratory forces generated by the vibratory devices are synchronized.

Claim 22 (new)

22. A method of connecting a crane assembly to a caisson to drive the caisson into the ground, comprising:

providing a plurality of vibratory devices for generating vibratory forces;

connecting the plurality of vibratory devices to the crane assembly such that transmission of vibratory forces from the vibratory devices to the crane assembly is inhibited;

rigidly securing each of the vibratory devices to one of a plurality of predetermined angularly spaced locations about the caisson;

operating each of the plurality of vibratory devices such that the vibratory devices each generate a vibratory force;

operatively connecting the plurality of vibratory devices together to synchronize the vibratory forces generated thereby, where the step of operatively connecting the plurality of vibratory devices further comprises the step of interconnecting the vibratory devices in a daisy chain configuration to synchronize the vibratory forces generated by the vibratory devices.

Claim 23 (new)

23. A method of connecting a crane assembly to a caisson to drive the caisson into the ground, comprising:

providing a plurality of vibratory devices for generating vibratory forces;

connecting the plurality of vibratory devices to the crane assembly such that transmission of vibratory forces from the vibratory devices to the crane assembly is inhibited;

rigidly securing each of the vibratory devices to one of a plurality of

predetermined angularly spaced locations about the caisson;

operating each of the plurality of vibratory devices such that the vibratory devices each generate a vibratory force;

operatively connecting the plurality of vibratory devices together to synchronize the vibratory forces generated thereby by

providing a plurality of gear boxes;

providing a pair of shafts for each gear box;

operatively connecting each shaft between one of the eccentric weights and one of the gear boxes; and

rotating the shafts with the eccentric weights such that the eccentric weights rotate in synchrony with each other.

Claim 24 (new)

24. A system for driving a large diameter caisson into the ground, comprising:

a plurality of vibratory devices, where each vibratory device comprises:

a housing; and

eccentric weights mounted within the housing, where rotating the eccentric weights in opposite directions generate vibratory forces;

a clamp assembly for rigidly securing each of the vibratory devices to one of a plurality of predetermined angularly spaced locations about the caisson;

a suspension assembly connected to the vibratory devices for inhibiting transmission of vibratory forces; and

a timing system comprising

at least one gear box, and

a plurality of shafts; whereby

each shaft extends between the eccentric weights of one of the vibratory devices and the at least one gear box; and

rotation of the eccentric weights of one of the vibratory devices is transmitted to rotation of the eccentric weights of another of the vibratory devices through the at least one gear box and the plurality of shafts such that the vibratory forces generated by the vibratory devices are synchronized; and

the timing system interconnects the vibratory devices in a daisy chain configuration to synchronize the vibratory forces generated by the vibratory devices.